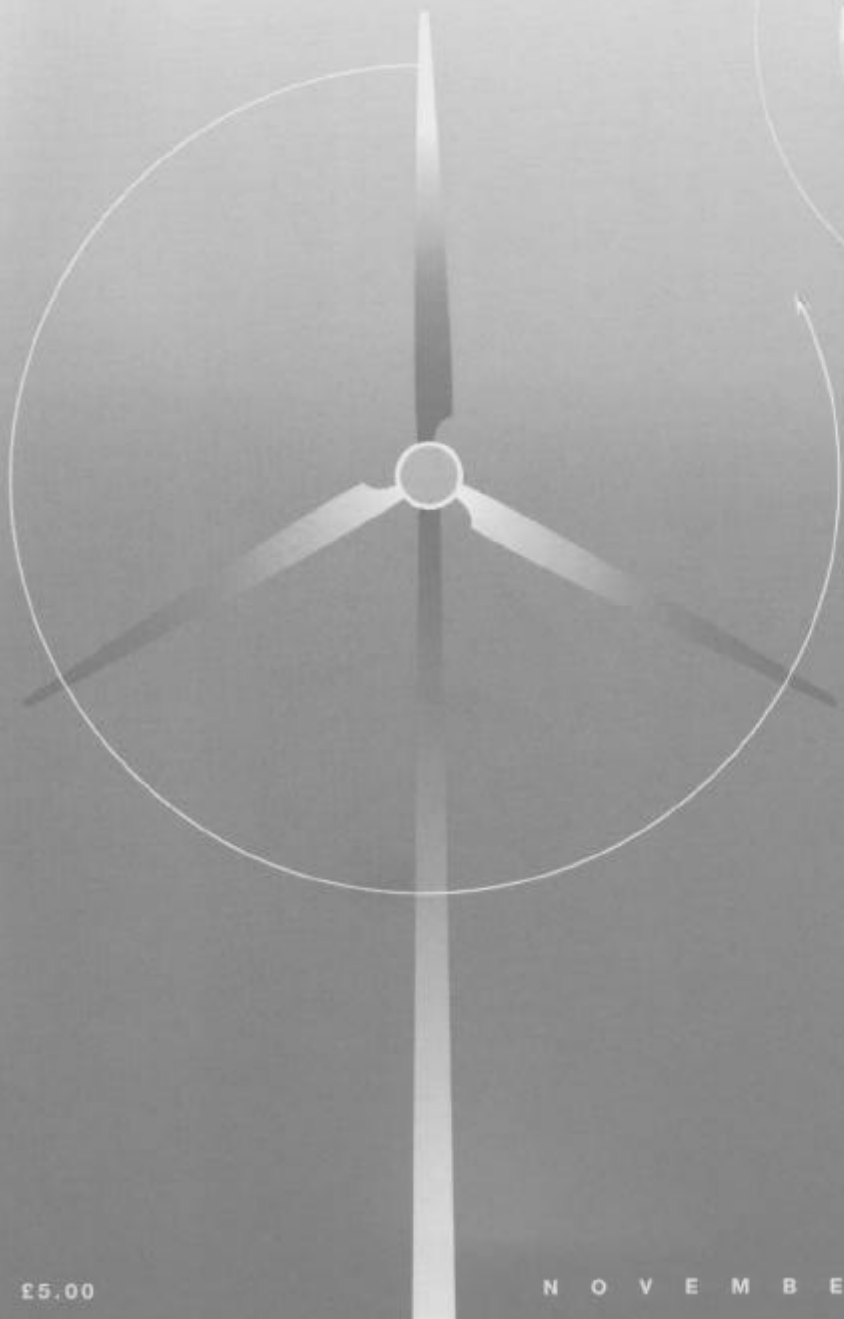


Best Practice Guidelines

**for Wind Energy
Development**



£5.00

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THE BRITISH
WIND

ENERGY
ASSOCIATION

BEST PRACTICE GUIDELINES FOR WIND ENERGY DEVELOPMENT

ACKNOWLEDGEMENTS

The British Wind Energy Association would like to thank the following organisations and individuals for their involvement in the production of these guidelines:

PARTICIPATING ORGANISATIONS AND INDIVIDUALS

Aspinwall & Company Ltd	Mr Peter Austin
Burnley Borough Council	Mr David Ellis
Cornwall County Council	Mr Nigel Matthews
Council for the Protection of Rural England	Ms Lilli Matson
Country Landowners Association	Mr Andrew Pym
Countryside Commission	Mr Andy Neale
Countryside Council for Wales	Mr Huw Jones
Scottish Society of Directors of Planning	Mr Gordon Mann
ETSU	Dr Ian Page
English Nature	Mr Brian Smith
Friends of the Earth	Ms Fiona Weightman
Gwynedd County Council	Mr Gwynedd Thomas
Malcolm Lynch Solicitors	Mr Jonathan Harrop
Montgomeryshire District Council	Mr Godfrey Lee
Nicholas Pearson Associates Ltd	Mr Nicholas Pearson
Radio-Communications Agency	Mr Ian McGarrigle
Royal Society for the Protection of Birds	Mr Mark Southgate
Scottish Natural Heritage	Mr Simon Brooks
Wales Wildlife and Countryside Link	Mr Geoffrey Sinclair
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Windcluster Ltd	Mr Simon Coates

The above individuals and organisations participated in an innovative process to incorporate their views as representatives of key bodies interested in wind energy development. At an initial workshop the participants advised on the criteria, content and structure for the guidelines. A committee of British Wind Energy Association members then drafted the document on the basis of this advice. The participants then reconvened to review the draft, to advise further on issues that concerned them and to suggest amendments so that the final guidance reflected their views as fully as possible.

The final wording of these guidelines is entirely the responsibility of the British Wind Energy Association.

The British Wind Energy Association gratefully acknowledges the involvement of Ms Pippa Hyam, Ms Mary Stenhouse and Mrs Clare Cocault of PDA International who acted as independent facilitators to the preparation of the guidelines.

Finally, the British Wind Energy Association gratefully acknowledges the financial contribution provided to this project by ETSU on behalf of the Department of Trade and Industry.

Michael Harper
Director, British Wind Energy Association

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Terms marked with a star [*] indicate that there is a glossary entry for further explanation of the term.

DEVELOPMENT CHART FOR WIND ENERGY

BEST PRACTICE GUIDELINES FOR WIND ENERGY DEVELOPMENT

PREAMBLE

a) Introduction

The British Wind Energy Association was established in 1979 as a professional association for those involved in wind energy research and development. It now also acts as the trade association for the wind energy industry. One very important aspect of its work is to promote excellence in wind energy development.

The British Wind Energy Association recognises the importance of ensuring that further projects continue to be appropriately sited and sensitively developed. These best practice guidelines, drawn up with the participation of a range of external organisations, aim to facilitate this.

Guidance on various aspects of wind energy development has already been produced by a number of organisations including English Nature, the Countryside Commission, the Department of Trade and Industry's Energy Technology Support Unit (ETSU) and Friends of the Earth (see Appendix 1). The publication of these guidelines builds on the existing literature and also on experience gained from wind energy projects already operating in the UK and abroad. These guidelines should be read in conjunction with other published information including the above guidance on wind energy development.

The exploitation of renewable energy, including wind energy should be regarded in the context of UK and EU policy on sustainable development. Wind energy as with other forms of renewable energy occurs naturally and repeatedly in the environment. For the UK, commercial development of wind energy is still relatively new. It began in 1990 with the introduction of the Non-Fossil Fuel Obligation (NFFO)* and by November 1994 over 35 wind energy projects have been built, including several with individual turbines and 26 wind farms comprising either a large number of turbines or a cluster of a few.

b) The nature of the guidelines

The guidelines are meant to be practical for use primarily by developers. They therefore only cover those issues which are the responsibility of, and can be controlled by, the developer. Consequently, they work within the framework of existing national energy, environmental and planning policy.

Due to the complex nature of wind energy developments, and the requirements for each project to be assessed on its individual merits, the panel of external participants considered it was not practicable to define a checklist of project specifications that could be applied to all developments equally. Therefore the guidelines aim to establish the process and approach

for identifying, developing and implementing appropriate wind energy proposals.

The guidelines primarily cover environmental and planning considerations and consultation with relevant parties. They cover all scales of wind energy development but apply to different sizes in different ways. Although the principles contained in the guidelines should remain the same for all sizes of development, the work required by a developer in project design and environmental assessment will always depend on the nature, size and location of the proposed project.

The best practice guidelines recognise that some wind energy developments are built as single, 'one-off' projects, possibly by a landowner, while others are built by specialist development companies who may be looking to develop a number of sites. The approach adopted by these guidelines is to consider the issues relevant for the development of an individual site, whilst recognising that the site selection process for the developer is likely to entail a process of considering other possible locations.

c) Implementation

The British Wind Energy Association intends that as a result of publishing these guidelines, a developer's approach to an individual project can be assessed by the degree to which that approach follows the spirit and principles set down in the guidelines. The guidelines are voluntary but the British Wind Energy Association expects its members and all responsible developers to adhere to them. The British Wind Energy Association invites local planning authorities⁸ to encourage adherence to the best practice guidelines by recognising that this will foster appropriate and commendable wind energy development.

The guidelines have been provided to all determining planning authorities and will be made available to other organisations and individuals on request. The guidelines will be reviewed periodically to take account of changing circumstances and comments to the British Wind Energy Association on the content of the guidelines are welcome.

d) Structure of these guidelines

The guidelines follow a chronological flow through the development process. They cover three elements of the process:

- *Technical and commercial considerations*

This element considers various technical aspects of the development, including wind speed, accessibility, infrastructure, construction issues and the developer's own analysis of the economic viability of the project.

- *Environmental considerations*

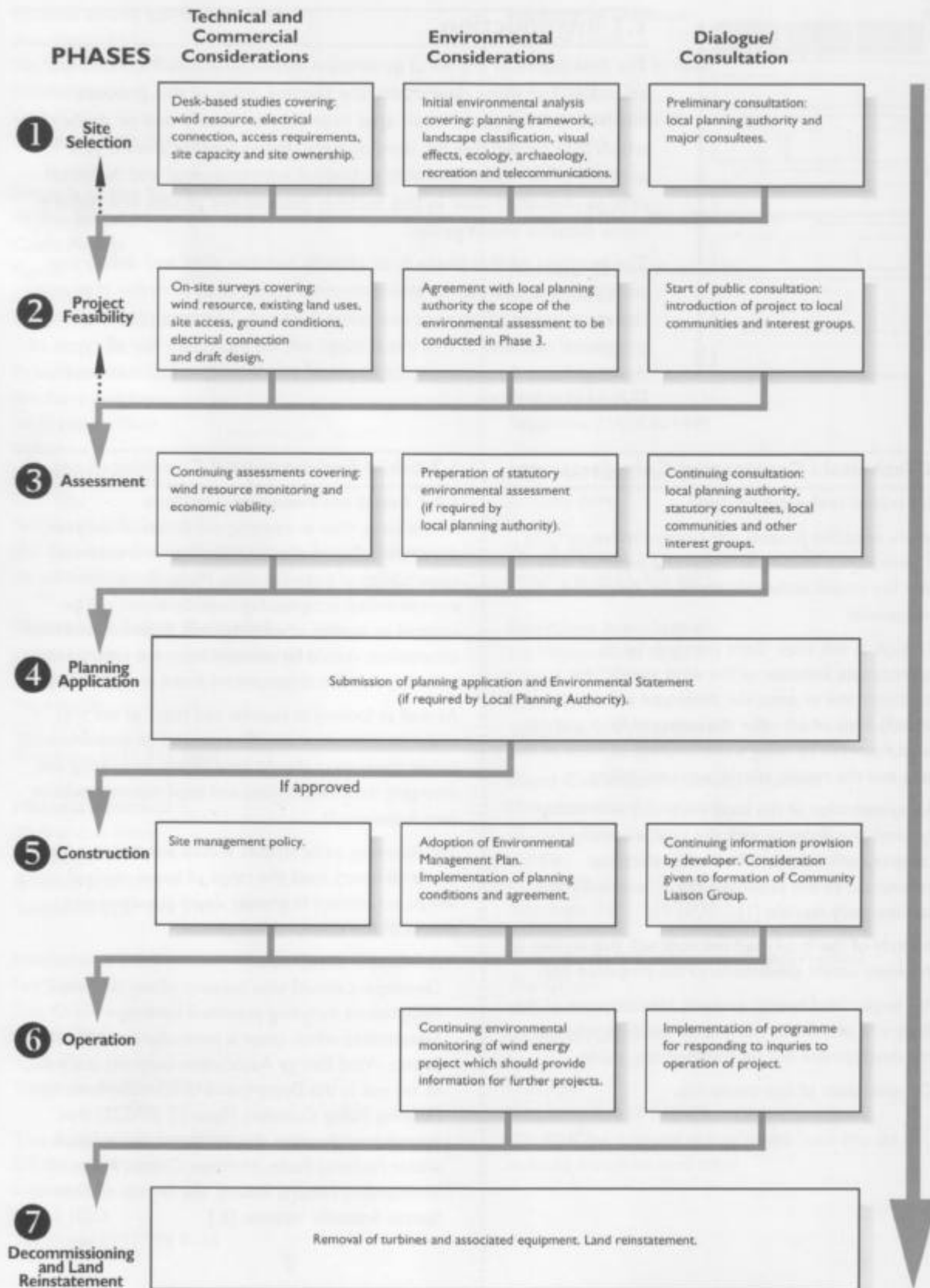
This element relates to the analysis of the effect of the wind energy development on various environmental and amenity interests. This is central to the selection and development of appropriate sites. The analysis includes the initial site selection phase, the detailed assessment in support of a planning application, the monitoring of the project in operation and the final site clearance. As the assessment proceeds the knowledge gained should enable the detailed design of the wind energy project to evolve. The relationship between the assessment of the effects and the design of the wind energy project is iterative so that continual re-evaluation and good consultation is necessary throughout the process.

- *Dialogue and consultation*

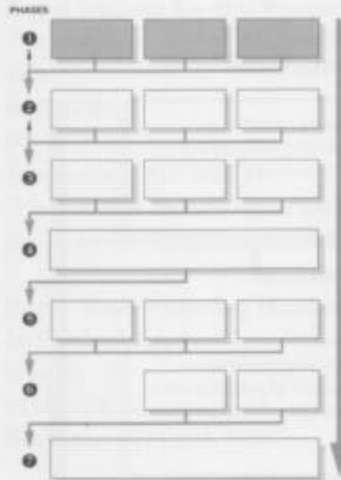
This element provides for essential two way dialogue between the developer and all others involved in the project, for example, the local planning authority, the local community, local interest groups and the full range of statutory and non-statutory consultees (see appendix 2).

Although they are discussed separately, all three elements are inter-related and they should all be considered as having an important influence on each other. The flow chart on page 3 presents a graphic representation of the development process.

DEVELOPMENT CHART FOR WIND ENERGY



PHASE ONE SITE SELECTION



1.1 Introduction

The first phase in any wind generation development is the initial site selection. For many developers the starting point of this process involves looking at a chosen area in order to identify one or more sites which may be suitable for development. Initial analysis should take account of all readily available published environmental and technical data as discussed later in this section. Subsequent phases will require more detailed investigation.

The purpose of this phase is to identify suitable sites and define any technical, commercial or environmental constraints in order that only the most appropriate sites are taken forward. The best practice processes outlined in this initial stage will be necessary for all types of developments to ensure suitable projects are pursued in the most appropriate fashion.

1.2 Technical / Commercial Considerations

1.2.1 Initial technical analysis

The site selection process will largely involve carrying out 'desk-based' studies to determine whether sites satisfy five crucial technical criteria for successful development:

- Though at this stage there may only be an approximate estimate of the wind speeds* for a particular site or area, the developer will usually identify sites which offer the potential for a suitable wind resource by using a combination of maps of the area and the results of computer modelling.
- An examination of the local electricity distribution system* and dialogue with the local electricity company will indicate whether an electrical connection to the proposed site is technically and commercially feasible [1].
- A study of the local road network will give an idea of the likely access constraints to the proposed site.
- For larger wind energy projects consideration of the likely size of the site will help to establish whether the development will be commercially viable.
- Consideration of site ownership.

1.3 Initial Environmental Considerations

1.3.1 Initial environmental analysis

At the same time as carrying out technical analyses, developers should also consider the environmental acceptability of potential sites. Many of the initial environmental acceptability considerations will be assisted by studies of existing data. Relevant published information should be available from the local planning authority and the organisations listed in Appendix 2.

As well as looking at reports and maps of the area in order to determine specific technical or environmental issues, developers should have regard to existing and emerging national, regional and local planning policies (see Appendix 3).

The following initial studies should attempt to address at a preliminary level the range of issues, each of which will be scrutinised in greater depth in subsequent phases of the project development:

- **Landscape classification**
Developers should take account of any landscape designations including published landscape assessments which cover a particular area. The British Wind Energy Association supports the policy as set out in the Department of Environment's Planning Policy Guidance Note 22 (PPG22) that special consideration should be given to projects within National Parks, Heritage Coasts, Areas of Outstanding Natural Beauty, the Broads or Sites of Special Scientific Interest [2].

1. This is only relevant for wind energy projects which are to be connected to the grid. There are many individual wind energy systems which are not attached to the grid and thus the comments about connection to the local electrical system here and in the following sections do not apply.

2. For Scotland, this policy is contained in the National Planning Policy Guidance: Note on Renewable Energy. For Northern Ireland, this policy is contained in A Planning Strategy for Rural Northern Ireland, 0 PSU 12 Renewable Energy, Department of Environment, Northern Ireland Office, 1993.

- *Visual effects*

After considering any landscape designations, developers should assess the visibility of the proposed site and the potential visibility of the proposed development from important public viewpoints.

- *Proximity to dwellings*

Wind turbines should not be located so close to domestic dwellings that they unreasonably affect the amenity of such properties through noise, shadow flicker³, visual domination or reflected light³.

- *Ecology*

Developers should take account of existing information relating to both ecological designations which cover a particular area and particular protected species that are found in the area either year round or seasonally.

- *Archaeological / historical heritage*

The existence of listed buildings, Conservation Areas and archaeological sites may have an influence on the acceptability of a particular site. Information on significant archaeological sites is available from county archaeological records. Information on listed buildings is available from district councils [3].

- *Recreational uses*

Any areas on or close to the site identified in development plans³ for recreational use should be considered.

- *Telecommunications³*

Microwave, TV, radar or radio transmissions may be affected by the presence of wind turbines. Consideration should be given to situations where this might occur. In most cases, technical problems can normally be resolved. See Appendix 2 for organisations which should be contacted.

- *Civil and military airports*

For sites close to airports, the CAA or relevant airport authority should be consulted.

- *Ministry of Defence*

The existence of Ministry of Defence firing ranges, radar or communications equipment should be identified for consideration.

1.4 Dialogue and Consultation

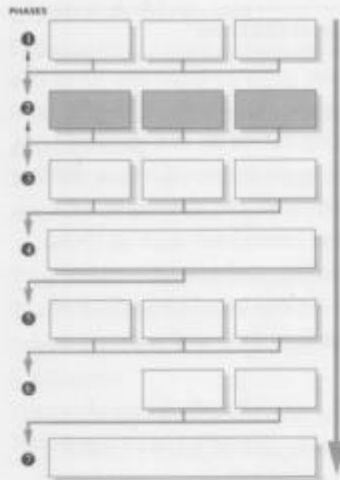
1.4.1 Initial consultation

Developers should have initial discussions with the officers of the local planning authority and statutory consultees to identify and agree potential issues which should be addressed. In addition, the developer may consider approaching other consultees such as those suggested by the local planning authority. Good research and consultation at this initial site selection stage should avoid unnecessary time and expense on unsuitable sites.

Whilst proposals remain at a speculative stage it would not be appropriate for developers to start a broad process of local public consultation as this may cause unnecessary concern or excitement about a proposal which may transpire not to be practicable.

3 Relevant information is available in Scotland from the local planning authority and in Northern Ireland from the Department of Environment.

PHASE TWO PROJECT FEASIBILITY



2.1 Introduction

By the beginning of Phase Two, the developer will have identified a site for further examination. This site should be subject to:

- more detailed technical assessment including on-site wind monitoring to determine a draft design and layout for the installation;
- an economic assessment to establish the commercial viability of the project;
- an appraisal and scoping exercise to identify specific environmental constraints and opportunities prior to undertaking, where relevant, the statutory environmental assessment* in Phase Three; and,
- an assessment of planning constraints.

It is during this phase that dialogue with the local community about the project should commence.

2.2 Technical / Commercial Considerations

Whilst Phase One activities are largely desk-based, the focus of technical work during Phase Two will be by visiting and/or surveying the site itself to determine further its suitability and viability. Investigations will be undertaken into:

• Wind Resource

Whilst an approximate estimate of the wind speed over the site can be obtained from databases and computer models, the sensitivity of energy yield* (and hence commercial viability) to wind speed requires a more accurate determination by actual site measurements. These are made using anemometers* supported on a guyed mast at a representative height which may be at the hub height* of a typical wind turbine (about 30-50+ metres). One or more masts may be required and should be in place for not less than 6 months and in some cases longer than 1 year. Developers should consult with the local planning authority on the requirement for planning permission for anemometry masts and on the extent to which publicity should be given to the erection of such masts. If mast-based anemometry is likely to be required for more than three months, it is appropriate that publicity should be given to the intent to erect anemometry equipment and to the purpose behind this so that the local community is made aware (see page 7). However, where developers intend to undertake short-term, near-ground wind measurement as part of initial site selection, publicity may well not be appropriate. Many sites are considered in this way and then rejected.

• Existing land uses

The existing uses of the land should be carefully discussed with the landowner; any tenants and all

those with rights to occupy the land, to determine whether and how best the wind energy project can integrate with these existing uses. As an example, the importance to the farmer of the location of turbines and access roads will vary between arable land and pasture.

• Ground conditions

The ground conditions at the site should be examined to consider whether construction of the foundations for the wind turbines, the erection of the machines and the provision of access roads is practical and economic. A water interest study* should be undertaken to determine the extent of spring water supplies in the area.

Features which may not appear on maps, such as fences, walls, streams and pipelines will need to be taken into account in the design and layout of the project.

It may be necessary to investigate the possibility of any previous mining activity under the site as this may influence the location of the turbines and their infrastructure.

• Site access

The construction of a wind energy project requires access by heavy goods vehicles to the site. Access to the site must be assessed to determine the suitability of existing public and private roads and what improvements may be required to serve the development. The local Highway Authority should be consulted. Movement between turbines must also be practical and therefore the route of on-site access tracks should avoid steep gradients.

• *Electrical connection*

The possible routes for, and nature of, the connection to the existing electrical network should be assessed together with the location of the substation*.

• *Draft project design*

All of the factors considered to date should be taken into account in determining the scale of the proposed wind energy project. However, at this stage, the developer will only be able to consider a range of design and layout options. This should include potential turbine sizes and numbers.

2.3 Environmental Considerations

2.3.1 Scoping document*

Phase One will have set the background for the environmental issues that will have to be subsequently reviewed. (For some sites, with little or no published data available, it may be necessary to undertake some preliminary survey work in order to identify the environmental sensitivity of the potential site.) During Phase Two the developer should agree in writing the scope of the environmental assessment required by the local planning authority which will be undertaken in Phase Three - for more detailed information of which see Section 3.3, below.

2.4 Dialogue and Consultation

It is during this phase that dialogue with the local community about the project should commence. Dialogue between the developer and the public should start early, just prior to erection of the anemometer masts. However it is important to make clear that at this stage the developer will only have minimal information on the planned project.

When starting detailed discussions with the consultees and local communities on the feasibility of wind energy projects in specific areas, developers should identify the companies involved. The developer should also nominate a representative for regular contact during these preliminary studies and a point of contact with a telephone number and/or address.

2.4.1 Local planning authority

The developer should notify the local planning authority of its intention to study the feasibility of the selected site. The local planning authority will decide, in consultation with the statutory bodies, the detail of environmental assessment required for the proposed site as part of the scoping document discussion. It is in the interests of all parties at this stage to communicate

freely to avoid unnecessary work.

2.4.2 Local communities

At this stage the developer should work with the local planning authority to consider how the informal public consultation should be conducted and how its results should be taken into account. This consultation should be with non-statutory groups (for example, amenity groups, community organisations, environmental societies, and wildlife trusts) and individuals who may have an interest in the proposed development (for example, local councillors and MPs).

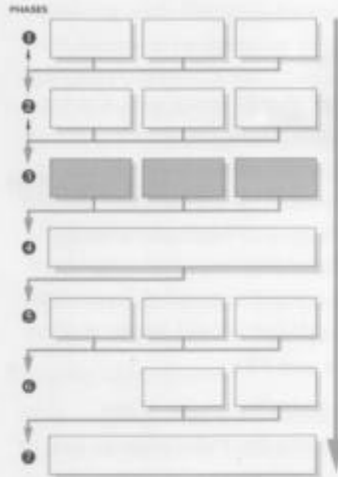
As noted previously, this feasibility phase of the development process requires the installation of one or more anemometer masts (subject to planning permission) to establish whether the study site has sufficient wind for commercial development. These anemometer masts will be subject to local publicity and can give rise to questions of concern or excitement about possible future development. It should be made clear that the approval of the anemometer mast application does not automatically lead to a wind energy project, though the presence of the anemometer masts does indicate that an area may have potential for wind energy. The developer should therefore provide general background information on wind energy to the local community.

A variety of methods should be used which aim to get information across effectively to the local community.

It should be accepted that there are a range of options for the proposed wind energy project itself. However, the developer should indicate the anticipated size of the proposed project. This helps to allay unwarranted concerns. The public information provided should give a clear indication of the future stages of the consultation and development process so that individuals will know what opportunities are available for commenting on issues of concern to them. In addition, the developer must describe the purpose of the wind monitoring masts, the likely period for which they will be needed, the environmental and planning studies to be undertaken for the project, and when the results of such studies are likely to be made available. General background information on existing wind energy projects should help answer many of the early local community questions at this stage.

Comments received from this consultation will give an indication of the breadth of local views. Such local feedback will be useful to the developer in subsequent reappraisals of the project design.

PHASE THREE DETAILED ASSESSMENT



3.1 Introduction

A developer will implement Phase Three only when the information obtained from Phases One and Two shows that the proposed wind farm may be commercially and environmentally viable. At the beginning of this stage, the developer should have a preferred layout. This layout will evolve throughout the environmental assessment stage.

3.2 Technical / Commercial Considerations

Throughout Phase Three, the developer may continue to gather wind monitoring information and continue to re-appraise the economic viability of the project. The developer should take account of the economic implications of any recommendations arising from this phase.

3.3 Environmental Considerations

3.3.1 Need for an Environmental Statement

Where the local planning authority believes that the proposed wind farm is likely to have significant effects on the environment by virtue of factors such as its nature, size or location, then it may require the developer to submit an Environmental Statement in accordance with requirements and procedures of the Town and Country Planning (Assessment of Environmental Effects) Regulations 1988. These Regulations apply to wind energy developments in England and Wales by virtue of the Town and Country Planning (Assessment of Environmental Effects) (Amendments) Regulations 1994 [4].

Department of Environment Circular 7/94 [5], sets out indicative criteria and thresholds to assist in identifying whether wind farm projects require a statutory Environmental Statement. A wind energy project may well require a statutory Environmental Statement if:-

- the development is located within, or is likely to have significant environmental effects on, a National Park, the Broads or the New Forest, an Area of Outstanding Natural Beauty, Sites of Special Scientific Interest or Heritage Coast (in Scotland, if the development is located within, or is likely to have

significant environmental effects on a sensitive location (see Scottish Office Circular 13/1988), such as a National Scenic Area, a Site of Special Scientific Interest or a future Natural Heritage Area [6]); or,

- the development consists of more than 10 wind turbines; or,
- the total installed capacity of the development exceeds 5 megawatts⁶.

If a developer disagrees with the local planning authority's view that an Environmental Statement should be submitted in accordance with the 1988 Regulations then the developer may apply in writing to the Secretary of State for his direction on the matter. The decision of the Secretary of State is final.

3.3.2 Topics for inclusion within the Environmental Statement

Statutory Environmental Statements must be produced in accordance with the 1988 Regulations. See Appendix 4 for guidance on undertaking statutory environmental assessments and preparing Environmental Statements. Informal environmental reports for projects which are not covered by the 1988 Regulations should be produced in a way which reflects the spirit of the regulations. Their scope should still be agreed with the local planning authority.

Those issues which should be considered for environmental assessment are described below with guidance given concerning the type of assessment required. The developer will have agreed the scope of the environmental assessment during Phase Two and as such will know which of the following matters need to be assessed. During the assessment process, it may be considered necessary to amend the proposed wind

4. For Scotland, the equivalent legislation is The Environmental Assessment (Scotland) Regulations 1988 as amended by the Environmental Assessment (Scotland) Amendment Regulations 1994. For Northern Ireland, the equivalent legislation is Statutory Rules of Northern Ireland 1989 No. 20, Planning (Assessment of Environmental Effects) Regulations (Northern Ireland) 1989. The 1994 amendments that exist in England, Wales and Scotland have not been incorporated into Northern Ireland legislation. The developers should therefore submit sufficient information in the form of an environmental report to satisfy the planning authority.

5. See also Welsh Office Circular 20/94 and Scottish Office Environment Department Circular 26/1994

6. Other variations exist for Scotland (see Scottish Office Environment Department Circular 26/1994).

energy project design in certain respects (for example, the turbine positions and their numbers) in light of findings.

Specialist advice should be sought on any potentially significant environmental impact.

• Policy Framework

Bearing in mind a statutory requirement that planning applications should be determined in accordance with policies in statutory development plans, unless material considerations indicate to the contrary, it is sensible for developers to provide an analysis of the policy framework for the development with the planning application. This is not strictly part of an environmental assessment, but it is common for such policy analyses to be included within an Environmental Statement.

An analysis of the policy framework is of importance even if, and perhaps because, current statutory plans will often contain no reference to wind energy development. This position is changing as new plans emerge from districts and counties.

• Site selection

Following on from Phase One (Site Selection), developers should be prepared to explain why they have selected the particular site under assessment.

• Designations

There are areas of the UK that are subject to international, national, regional or local designation. Accounts should be taken in the relevant assessment of any designation areas within the site and the reasons for their designation. The potential impact of the wind energy project on the designated areas and the significance of this impact should be assessed. All designated areas within the site or in a position likely to be affected by the proposed project should be clearly marked on a plan submitted as part of the Environmental Statement.

• Visual and landscape assessment

The existing landscape should be described, and the potential landscape and visual impact of the proposed development assessed and evaluated. (See Appendix 4 for guidance on conducting environmental assessment with respect to the landscape).

A 'Zone of Visual Influence[®]' should be defined and a map produced which indicates where the proposal may be visible from, within a radius agreed with the local planning authority. This should be used in consultation with the planning authority and relevant consultees to decide important and representative viewpoints from

which the visual impact of the proposal can be assessed. These points are likely to include local settlements and important public viewpoints and should include a range of distances from the proposed project and may cross administrative boundaries.

Developers should consider the proximity of the proposed project to already existing wind energy projects and whether it will be possible to see one or more such projects from agreed viewpoints in the surrounding area. The significance of this should be assessed. However, it is for the local planning authority to decide on the appropriate number of wind energy developments for a particular area.

• Noise assessment

The advisable distance between residences and a proposed development will depend on a variety of factors including, local topography, the character and level of local background noise and the size of development. Guidance on noise is available from the Department of Environment in Planning Policy Guidance Notes (PPG 22 and 24 [7]). Detailed recommendations will be available from the Department of Trade and Industry Noise Working Party [8].

A prediction of the sound produced by the proposed development in the surrounding area should be made and presented in a form agreed with the local environmental health officer. Key dwellings (normally the nearest in each direction) should be identified in consultation with the local environmental health officer from where background noise measurements should be taken. Following a meeting with the environmental health officer, a survey should be undertaken of the character and level of the background noise. The local environmental health officer will also expect to receive predictions of the sound that will be received from the turbine at sensitive locations in the area, taking account of the measured background noise levels correlated with wind speed. It is very likely that in deciding a planning application the authority will impose a planning condition relating to noise emission (see Section 4.4).

• Ecological assessment

The fauna and flora that are found at the proposed site (either year round or seasonally) should be considered in relation to the loss of habitat, to their sensitivity to disturbance and to their importance which may be identified by national and/or local law or policy. Site survey work will be required followed by an assessment of possible effects on flora and fauna. It is important that ecological survey work is undertaken at

7. PPG 22, Renewable Energy, 1993; PPG 24, Planning and Noise, 1994.

8. A Noise Working Party comprising, environmental health officers, government officials, noise experts and representatives from the wind energy industry has been established by the Department of Trade and Industry to provide recommendations and guidance on the assessment and rating of noise from wind turbines.

the appropriate time of year to take account of the seasonal nature of some of the potential impacts under consideration. The developer should meet with the local planning authority and relevant consultees to discuss the timing of construction and amendment of wind turbine positions to avoid important species or habitats. Furthermore, there may be a requirement for on-going monitoring or an overall Environmental Management Plan⁹, for the construction period or for a defined number of years post-construction, which should be discussed with the local planning authority and with relevant consultees.

A well designed project should not result in loss of valuable habitat or adverse impact on protected species.

- *Archaeological and historical assessment*

Phase One will have identified the existence of any sites of significant archaeological or historical importance within or near to the site. The likelihood of further, as yet undiscovered remains should be considered. The physical impact of

the proposal and the effect on the setting should be examined. A well designed wind energy project should avoid physical disturbance to such sites and any impact on the setting should be considered. Mitigating measures should be discussed with the local planning authority and relevant consultees and may be subject to a planning condition or legal agreement.

- *Hydrological assessment*

An assessment of the impact of the proposed development on water courses, their quality and quantity may be necessary. An assessment of spring water supplies should also be undertaken where considered appropriate by the National Rivers Authority and its Scottish and Northern Ireland equivalents.

- *Interference with telecommunication systems*

Wind energy projects can cause interference to nearby television and microwave systems. Communication system users should be approached for their views (see Appendix 2). If a wind energy project is proposed on the route of a microwave or television link then any adverse impact can usually be avoided by re-siting wind turbines or re-routing the link. Similarly if it is considered that local television reception may be affected this can also be avoided through technical solutions.

- *Aircraft safety*

Wind energy projects need to be sited so as not to cause a hazard to aircraft safety through any effects on radar systems or low flying aircraft. The civil and military aircraft authorities must be consulted.

- *Safety assessment*

An assessment of safety should be made to include consideration of the structural integrity of the wind turbines intended for use on the site. Developers should liaise with the Health and Safety Executive as necessary and undertake appropriate identification of hazards and assessment of risk in order that reasonable measures are taken to protect the health and safety of the public and other people who may be present on the site. Other issues which may be considered include, highway safety and shadow flicker.

- *Traffic management and construction*

Details of the construction of the wind energy project should be included. The impacts of construction (including access roads) should be assessed as part of the visual, ecological, hydrological, and archaeological assessments. Any essential road improvements needed to accommodate the development should be discussed and agreed with the local Highway Authority.

- *Electrical connection*

In parallel with the wind energy development a power line will normally be installed to the nearest suitable electricity sub-station or other point of connection to the local distribution network. The developer, working with the local public electricity supplier⁹ or other electrical contractor, should ensure that this work is planned following consultation with the local planning authority, the affected landowners and the relevant consultees. The electrical grid connection will normally be subject to a separate assessment and planning application. However, careful account should be taken of the potential impacts on the environment and on land use and appropriate measures should be taken to avoid unnecessary adverse impacts during the installation of the line. Such details of the electrical connection (overhead or underground electricity lines and the substation) as are available at the time should therefore be examined as part of the relevant assessment.

9. See for example, *An Assessment of Renewable Energy for the UK*, ETSU, HMSO, 1994.

• *Economic effects on the local economy*

The Environmental Statement may include an estimate of the number of temporary or permanent jobs created and the value of the contracts available locally.

• *Global environmental effects*

The Environmental Statement should include estimates of the amount of electricity the wind energy project will produce and the quantity of polluting emissions that would be produced from a conventional power station producing the equivalent power. Government statistics are available to undertake such calculations and full references should be stated [9].

• *Tourism and recreational effects*

Public rights of way within the site should be identified and clearly shown on a plan. Visitor facilities, if appropriate should be discussed with the local planning authority and relevant consultees and any proposed developments should be reviewed in the appropriate assessment. Existing nearby tourist and recreational facilities should be identified and the impact of the proposed project on these should also be included within the relevant assessments.

• *Decommissioning*

The assessment should cover proposed decommissioning* of the wind energy project. Consideration should be given to restoration measures including the removal of above ground equipment, landscaping the foundations and as to whether the remaining roads or tracks on the site will re-seed naturally or will require additional treatment.

• *Mitigating measures*

The 1988 Regulations require developers to address the ways in which the potentially adverse affects of their projects may be mitigated or avoided. Other Government guidance encourages measures to mitigate the impacts of development on interests of ecological importance [10].

Mitigating measures advised within Environmental Statements for wind energy projects are likely to concentrate on ecological issues - the reduction of visual impact is likely to occur through careful siting and the choice of colours and finishes for the turbines. Measures to mitigate the ecological effects of a wind energy development on, for example on the flora and fauna of the site, may include the creation of new habitats. Developers should also consider the production of and compliance with method statements for construction. This will assist developers and their

contractors to implement the recommendations made within the Environmental Statement to safeguard environmental interests both on the site and off site where construction has direct and indirect impacts.

Mitigating measures such as those discussed in this section can often be provided for in Environmental Management Plans contained within planning obligations concluded with the local planning authority prior to the issue of planning permission. Such plans should be negotiated not only with planning authorities, but also with relevant consultees.

• *Non Technical Summary*

In accordance with the 1988 Regulations, there must be a Non Technical Summary, supporting the Environmental Statement, setting out the issues considered and summarising the conclusions reached for each section.

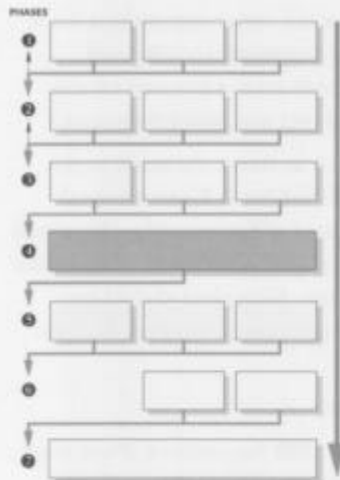
3.4 Consultation / Dialogue

The developer should maintain a continuing dialogue with the appropriate statutory and non-statutory consultees and the public throughout the environmental assessment process. The statutory consultees have a duty to assist with the provision of available information to the developer, the local planning authority and the public.

On the completion of Phase Three the developer will normally be in a position to submit a planning application together with an Environmental Statement. The project design may change further as a result of the formal consultation process undertaken by the local planning authority. Additional mitigating measures can also be considered at this stage to ameliorate specific effects of the development. All parties in the process should be prepared to discuss appropriate revisions to the application in the light of all of the responses received.

The developer should be prepared to explain the way in which comments from the consultation process have been evaluated.

PHASE FOUR PLANNING APPLICATION



4.1 Processing the application

By the beginning of this phase the detailed technical commercial, environmental assessments will have been undertaken. If a site is considered suitable, the developer may submit a planning application to the local planning authority.

The local planning authority has a statutory duty to process registered planning applications. It is required to give a decision after eight weeks (or within sixteen weeks where the application is accompanied by a statutory Environmental Statement). The determination period runs from the date of registration of the application and may be extended with the agreement of the developer. The developer has the right to appeal against non-determination after the required time (eight or sixteen weeks).

The developer should co-operate with the local planning authority in printing and circulating, or making available (for example by lodging in the local public library) sufficient copies of the Environmental Statement (or environmental report where no Environmental Statement is required). This allows the appropriate consultees and the public to inspect and assess the proposed project and to make any formal response to the local planning authority. The Non Technical Summary should be made available to members of the public free of charge. Further public events may be organised by the developer, depending on the level of local interest, to provide a constructive forum for the local community to find out more about the proposed development.

In the formal processing of the application the local planning authority will seek to discuss recommended conditions with the developer and the major consultees, without pre-judging the decision. (These are further discussed in section 4.4)

The local planning authority has a duty to consider all representations from consultees and the public on the application in the light of development plan policies and other material planning considerations which include national and regional planning guidance. The developer should be prepared to answer any substantive issues raised in such correspondence in the furtherance of a fully informed decision.

Where a local planning authority requests further information from the developer following the submission of the Environmental Statement and receipt of consultees' responses, the developer should, where possible, provide this information in one document to facilitate further consultation.

4.2 Determination of planning application

The planning officer of the local planning authority will summarise in a written report to the Committee the factual background, details of consultation responses and key issues of the application. Based on this summary and an analysis of planning policy, the planning officer may recommend to the Planning Committee of the local planning authority whether permission should be granted. In the case of major applications, the Planning Committee may wish to visit the site before further consideration at a subsequent meeting.

Where there are issues of more than local importance to be considered or where there is a departure from the development plan, the Secretary of State may call for a Local Public Inquiry to determine the application. The various elements of the project assessment will be subject to review by the appointed Inspector who will report to the Secretary of State for a decision.

4.3 Approval

In the final assessment of the planning application there may be objections or recommendations which are not adopted in the planning permission. There is therefore a responsibility on all the participants in the consultation process to accept the terms of the planning permission and to work towards an appropriate development within the conditions finally imposed.

4.4 Planning conditions and planning obligations

The local planning authority will wish to regulate the construction and operation of the wind energy development by means of planning conditions and/or a planning obligation - the latter being a binding legal agreement between the operator and the local authority. Whether conditions or an agreement are appropriate will depend on a variety of factors on which the developer should seek advice. Well drafted conditions or agreements should be discussed by developers and the local planning authority at the earliest possible stage.

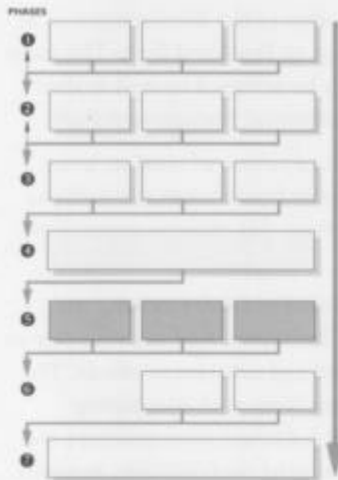
Where proposals are acceptable to local planning authorities additional commitments made by the developer to mitigate potential environmental damage help to give confidence both to the local planning authority and local communities that the developer is acting in a responsible manner, and wishes to carry out a development in as sympathetic a manner as possible, deploying the best practicable environmental option.

Depending on the nature, size and location of the wind energy project, the sorts of issues that will normally be considered appropriate for planning conditions or a planning obligation are as follows:-

- Control of noise emissions;
- The regulation of construction access so as to avoid traffic hazards and promote highway safety;
- The decommissioning of the development once electricity ceases to be generated. The local planning authority will wish to be sure that all the surface remains of the development are removed and the site restored to a suitable condition;
- The avoidance of undue interference with electronic transmission systems, including television. The local planning authority will wish to be sure that any interference to transmission systems anticipated by the developer or a consultee is satisfactorily remedied;

- Control of implementation of the development so as to avoid or limit damage to fauna and flora. This form of regulation may often be achieved by well drafted and enforceable Environmental Management Plans;
- Control of the design and colour of wind turbines, since a developer may not have chosen the turbines to be deployed at the time that planning permission is granted;
- Programmes over a period of years following the commissioning of the development to monitor, within reason, both anticipated and unforeseen affects. The written reports resulting from such monitoring programmes should be published (except where the need to maintain commercial confidentiality prevents such publication) so as to benefit future developments and the general state of knowledge on such issues;
- Exclusion of areas within the site due to ecological sensitivity; and,
- Designation of environmental responsibility for the construction period.

PHASE FIVE CONSTRUCTION



5.1 Introduction

Environmental considerations continue into the construction phase and developers should refer back to the Environmental Statement and conditions and obligations under which planning permission has been granted. Planning conditions should cover any activities during this construction phase where major impacts may occur.

5.2 Technical Considerations.

In view of the number of separate contractors involved in the construction works for a wind energy project, the developer should identify an individual with responsibility for site management to the local planning authority. This individual will have responsibility for all aspects of the work. The developer should also ensure that all contractors are aware of and abide by the requirements of any planning conditions or agreed environmental measures.

5.3 Environmental Considerations

Depending on the nature, size and location of the project, an Environmental Management Plan as discussed in section 4.4 may be implemented.

A small percentage of the total project area will be directly affected by the construction activities. Areas of construction work on-site should be delineated in consultation with the local planning authority and measures taken to avoid unnecessary impacts, such as vehicle use, on areas outside the defined working boundary.

If the environmental assessment has identified areas of ecological or archaeological importance then a record of pre-construction site conditions in these areas should be made and they should be considered in the Environmental Management Plan (where relevant). This may be a requirement of planning conditions. Such areas should also be notified to the contractors to avoid damage.

Due regard should be given to the safety of those using public rights of way.

The construction work may include the building of temporary or permanent access tracks and storage compounds, turbine foundations and other on-site buildings. All of these processes may be covered by

relevant British Standards and Codes of Practice (see Appendix 5) which must be adhered to.

5.4 Dialogue and Consultation

The developer should ensure that on-site and off-site works are undertaken with a minimum of disruption to the local residents.

Wind energy projects will continue to generate interest from the public for some time and the developer should make provision from the start of the works for the handling of enquiries and visitors. Although it is not possible to be prescriptive, the following suggestions may be helpful.

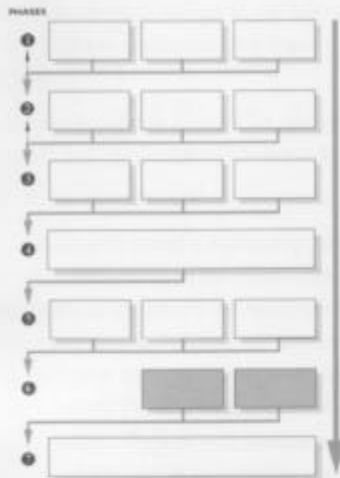
An information board should be displayed in a publicly accessible location at all times giving the name and telephone number of the developer's site representative or other contact.

Consideration should be given to the formation of a community liaison group⁹ providing the opportunity for dialogue between the developer and the local communities.

In the event of any comments or complaints about the construction works, the developer or site representative should be accessible to the local community. Any complaints should be dealt with quickly and responsibly. Any complainant who is not satisfied with the handling of their complaint by the developer can seek guidance from the local planning authority.

The developer should establish a programme of emergency procedures for 24-hour support to the project works in case of unforeseen problems - for example, problems with vehicles or with vandalism. These procedures should be registered with the local emergency services and with the local planning authority and be noted on the site information board.

PHASE SIX OPERATION



6.1 Introduction

Developers of wind energy projects and/or the owners or operators should accept that their responsibility for satisfactory operation of the project carries on throughout its lifetime until it is replaced or removed. Public notice should be given of any changes of operator. There should be no significant environmental problems encountered with the operation of a wind energy project if the developer has sited and designed the project well and has followed these guidelines. However, where appropriate, it should be the responsibility of the owner/operator to monitor the project for any key impacts as agreed with the local planning authority, and to keep local people informed of the results of any such monitoring and the general performance of the wind generation project.

6.2 Environmental Considerations

Potential environmental issues relate to effects on human activities and the site's flora and fauna.

The owner/operator should have a formal procedure for recording and dealing with complaints from the public. The owner/operator should investigate any complaints from individuals and should work with the relevant authorities to address issues raised (for example, planning officers or environmental health officers).

Wildlife disturbance is most likely to become apparent as a result of specific studies carried out by the owner/operator. Normally these studies would be the result of undertakings made by the developers during the planning process, although there may be instances where concerns are raised by individuals after the facility has been built leading to such studies. If it should become apparent that there is a significant ecological impact, the owner/operator should co-operate with the individuals concerned and the relevant statutory and voluntary conservation bodies to determine the nature of the problem and to work towards a solution.

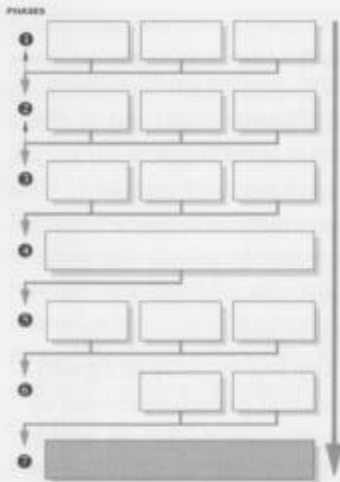
6.3 Dialogue and Consultation

An owner/operator has a responsibility as a member of the community to allow local individuals to raise any concerns they may have about the operation of the project. The owner/operator should have a local representative to whom individuals can voice their concerns. The owner/operator should make themselves, and their representatives, easily accessible to local people within the community through a variety of methods.

In addition to keeping the local community informed about the operation of the wind energy project and any problems which may have occurred, the owner/operator should also work towards disseminating to the wind industry as a whole the results of any studies and the success of any mitigation measures in order that lessons are learnt and acted upon. Such information could be circulated through appropriate consultees, environmental / development conferences and through the British Wind Energy Association. It should also be made available on request to planners and environmental health officers.

Following commissioning, an owner/operator should operate a good neighbour policy and encourage a greater understanding of wind energy (and specifically their wind energy project) within the local communities.

PHASE SEVEN DECOMMISSIONING AND LAND REINSTATEMENT



The subject of decommissioning and site clearance should be adequately covered in the planning conditions and/or planning agreements accompanying permission. However, should the wind energy project cease to produce electricity for a specified period (often six months but capable of extension by agreement with the local planning authority), the owner/operator should remove all the turbines and return the site as closely as practicable to its original state.

Unlike most power generation projects, wind turbines can be decommissioned easily and rapidly. Despite this, developers still need to approach the issue of decommissioning responsibly.

Notice should be given to the local planning authority in advance of commencing decommissioning work.

Normally the scrap value of the turbines themselves will be sufficient to cover the costs of their dismantling. Where this may not be the case, consideration should be given to the setting aside of funds over the life of the project in order to ensure there will be enough money available at the end of the project's life to pay for decommissioning and other reinstatement requirements.

GLOSSARY

Anemometry mast

A mast, on which is fixed equipment (including an anemometer) erected to measure the wind speed and wind direction over a particular site.

Anemometry masts are usually slender structures fixed to the ground with guy wires.

Community liaison group

A community liaison group could comprise representatives of the development company (or of the owners and operators as appropriate), planning authority representatives and a cross section of local community representatives. A third party facilitator may be appropriate. The frequency of the meetings and their remit should be agreed by all parties on a basis which is relevant to each site.

Decommissioning

This is the final phase of a development when the site is cleared of above ground equipment associated with the wind energy project and the land restored to its original use or some other agreed use.

Development plans

Under the Planning and Compensation Act, 1991, all local planning authorities must prepare and keep up-to-date a development plan containing policies and proposals relating to the development of the whole of their area. Local planning authorities' decisions on planning applications must accord with their development plan unless material considerations indicate otherwise. In metropolitan areas the development plan is called the Unitary Development Plan. Elsewhere there are Structure Plans for Counties and Regions (Area Plans in Northern Ireland) and Local Plans for Districts or Boroughs.

Energy yield

This is the term to describe the electrical output from a wind energy project. It is strongly influenced by the wind speed (qv) of a site.

Environmental Management Plan

An Environmental Management Plan is a document which crystallises agreed proposals to minimise the environmental impacts of construction activities and working practices. It may specify a method of construction, and it may contain provisions for monitoring environmental effects during operation.

Environmental Assessment / Environmental Statement

By Regulation of 1988 and 1994, the UK Government implemented the EC Directive on Environmental Assessment (85/337/EEC) for projects which may have a significant affect on the environment. Under the 1994 Regulations environmental assessment may be required for wind energy development. An Environmental Statement is the written product of the formal process of environmental assessment.

Hub height

This is the height of the wind turbine tower from the ground to the centre-line of the turbine rotor.

Local electricity distribution system

This is the electricity distribution network, normally incorporating overhead poles and wires, but also sometimes underground wires, which connect individual properties and areas to the regional grid at a variety of power levels including 11, 33 and 132 kilovolt. The regional grid is distinct from the national grid into which wind energy projects will never connect. The national grid is a 275 kV and 400 kV network.

Local planning authorities

Referring to the definition of Development Plans (see above) the authorities which normally consider and determine wind energy applications are Districts or Boroughs in non-metropolitan areas and Metropolitan Borough Councils in metropolitan areas in England. Committees determine applications, taking advice from professional planning officers. In Northern Ireland, the planning authority is the Department of Environment (Northern Ireland) Divisional Office. In Scotland it is usually the Region.

Local public electricity supplier

The local public electricity supplier is responsible for the supply of electricity to individual users. In England and Wales they were created by the Electricity Act 1989 which details their duties and responsibilities.

Megawatts, kilowatts and watts

A megawatt (MW) is equal to 1,000 kilowatts (kW) or 1,000,000 watts (W). It is used as a measurement of electrical generating capacity.

Non-Fossil Fuel Obligation

The Non-Fossil Fuel Obligation (NFFO) provides market stimulation for all forms of renewable energy. Section 32 of the Electricity Act 1989, provides for the Secretary of State to make an NFFO Order

GLOSSARY

requiring each Regional Electricity Company to enter into secure arrangements so that it has available, for specified periods, a specified amount of non-fossil generating capacity (ie capacity from stations fuelled by nuclear power or renewable sources of energy).

Reflected light

Under certain conditions sunlight may be reflected from wind turbine blades when in motion. The amount of reflected light will depend on the finished surface of the blades and the angle of the sun.

Scoping document

The scoping document establishes the full scope of the environmental assessment and should be agreed in writing with the local planning authority.

Shadow flicker

Under certain combinations of geographical position and time of day, the sun may pass behind the blades of a wind turbine and cast a shadow. When the blades rotate the shadow flicks on and off. The effect only occurs inside buildings where the flicker appears through a window opening. The seasonal duration of this effect can be calculated from geometry of the machine and the latitude of the site.

Statutory environmental assessment

See Environmental Assessment, above.

Substation

The electrical substation connects the local electricity network to the electrical system of the wind energy project through a series of automatic safety switches.

Telecommunications (and electromagnetic disturbance)

Telecommunications systems broadcast information at a variety of frequencies and in a number of ways. Telecommunications systems currently in operation over land use microwave, very high frequency (VHF) and ultra high frequency (UHF) systems. Interference with telecommunication systems is known as electromagnetic disturbance or interference, or by the shorthand initials EMI.

Water interest study

For wind turbines which require substantial foundations, it may be important to establish who obtains water for drinking or agricultural purposes from below ground sources within the relevant catchment area. A water interest study will reveal this information and may help to determine the potential effect of the development on spring water supplies.

Wind speed

The wind speed of a site is a crucial factor in determining the economic viability of a wind energy project. Since energy yield is closely related to wind speed, the higher the wind speed, the greater the energy yield.

Zone of visual influence

A zone of visual influence provides a representation (usually presented as a map with markings or colourings) of the area over which a site and/or a proposed development may be visible.

APPENDIX I

Recent Guidance on Wind Energy Development

(In reverse chronological order)

Country Land Owners Association, *Wind Farms - A handbook for members*, 1994

Countryside Council for Wales, *Wind Turbine Power Station Construction Monitoring Study*, 1994

English Nature, *Nature Conservation Guidelines for Renewable Energy Projects*, 1994

Friends of the Earth, *Planning for Wind Power: Guidelines for Project Developers and Local Planners*, 1994

Scottish Office Environment Department, *National Planning Policy Guideline: Renewable Energy (NPPG6)*, 1994

Scottish Office Environment Department, *Planning Advice Note (45), Renewable Energy Technologies*, 1994

Countryside Council for Wales, *Wind Turbine Power Stations - Policy Document*, 1993

Department of Environment, *Planning Policy Guidance Note - Renewable Energy (PPG 22)*, 1993

Crockford NJ, *A Review of the Possible Impacts of Wind Farms on Birds and Other Wildlife*, 1992

Countryside Commission *Wind Energy Development and the Landscape*, CCP 357 1991

Countryside Commission, *The Environmental Impact of Wind Turbines: A Review of Existing Knowledge*, 1989

APPENDIX 2

Useful Addresses

Developers, in conjunction with the local planning authority, will need to make an assessment of whom it is appropriate to consult at each particular phase of development.

The following are the addresses of the main bodies involved in wind energy.

The British Horse Society

British Equestrian Centre
Stoneleigh Park
Kenilworth
Warwickshire CV8 2LR
Telephone 01203 696697

Country Landowners Association

16 Belgrave Square
London
SW1X 8PG Telephone 0171 235 0511

The Countryside Commission

John Dower House
Crescent Place
Cheltenham
GL50 3RA
Telephone 01242 521 381

(The Countryside Commission has a network of local groups who can be contacted through the head office)

Countryside Council for Wales

Plas Penrhos
Fford Penrhos
Bangor
Gwynedd
LL57 2LQ
Telephone 01258 370444

Council for British Archaeology

Bowes Morrell House
111 Walmgate
York
YO1 2UA
Telephone 01904 671417

Council for the Protection of Rural England

Warwick House
25 Buckingham Palace Road
London
SW1W 0PP
Telephone 0171 976 6433

(CPRE has a network of local groups who can be contacted through the head office)

Countryside and Wildlife Branch of Department of Environment (Northern Ireland)

Commonwealth House
25 Castle Street
Belfast
Northern Ireland BT1 1GU
Telephone 01232 314911

Campaign for the Protection of Rural Wales

31 High Street
Welshpool
Powys
SY21 7JP
Telephone 01938 552525

(CPRW has a network of local groups who can be contacted through the head office)

Civil Aviation Authority

45-59 Kingsway
London
WC2B 6TE
Telephone 0171 379 7311

ETSU

Harwell
Didcot
Oxfordshire
OX11 0RA
Telephone 01235 433587

English Heritage

23 Savile Row
London
W1X 1AB
Telephone 0171 973 3000

English Nature

Northminster House
Northminster
Peterborough
PE1 1UA
Telephone 01733 340 345

(English Nature has local teams who can be contacted through the head office)

Friends of the Earth

26-28 Underwood Street
London
N1 7JQ
Telephone 0171 490 1555

Friends of the Earth Scotland

Bonnington Mill
70-72 Newhaven Road
Edinburgh
EH6 5QG
Telephone 0131 554 9977

Friends of the Earth Cymru

33 The Balcony
Castle Arcade
Cardiff
CF1 2BY
Telephone 01222 229577

Friends of the Earth (Northern Ireland)

Bradbury Buildings
56 Bradbury Place
Belfast
Northern Ireland
BT7 1RU
Telephone 01232 311555
(FoE has a network of local groups who can be contacted through the separate head offices)

Health and Safety Executive

Danial House
Trinity Road
Merseyside
L20 3TW
Telephone 0151 951 4000

Historic Scotland

20 Brandon Street
Edinburgh
Scotland EH3 5RA
Telephone 0131 244 3107

Institute of Environmental Assessment

Fen Road
East Kirkby
Lincolnshire
PE23 4DB
Telephone 01790 763613

The Landscape Institute

6/7 Barnard Mews
London
SW11 1QU
Telephone 0171 738 9166

Ministry of Defence

Defence Lands
(Safeguarding and by-laws)
Room B4/3
Government Buildings
Leatherhead
Chessington
Surrey KT9 2LU
Telephone: 0181 391 3203

National Rivers Authority

Rivers House
Waterside Drive
Aztec West
Almondsbury
Bristol BS12 4UD
Telephone 01454 624400

National Farmers Union

22 Long Acre
London
WC2E 9LY
Telephone 0171 235 5077

Ramblers Association

1/5 Wandsworth Road
London
SW8 2XX
Telephone 0171 587 3799

Royal Commission on the Historic Monuments of England

23 Savile Row
London
W1X 1AB
Telephone 0171 973 3500

Royal Society for Nature Conservation

The Green
Witham Park
Waterside South
Lincoln
LN5 7JR
Telephone 01522 544400
(The RSNC has a network of local Wildlife Trusts who can be contacted through the head office)

PHASE ONE SITE SELECTION

Royal Society for the Protection of Birds

The Lodge

Sandy

Bedfordshire

SG19 2DL

Telephone 01767 680551

(A map showing the RSPB county and regional offices throughout the UK can be obtained from their head office)

Royal Town Planning Institute

26 Portland Place

London

WIN 4BE

Telephone 0171 636 9107

Scottish Natural Heritage

Hope Terrace

Edinburgh

EH9 2AS

Telephone 0131 447 4784

(SNC has regional and area offices that can be contacted through their head office)

TELECOMMUNICATIONS

BT

Radio Engineering and Systems Unit

Post point 311

The Angel Centre

403 St John Street

London

EC1V 4PL

Telephone 0171 239 0418

Mercury Communications Ltd

Frequency Management Section

Mercury House

Longshot Lane

Bracknell

Berkshire

RG12 1XL

Telephone 01344 713523

Radio-Communications Agency

Room 309

Waterloo Bridge House

Waterloo Bridge Road

London

SE1 8UA

Telephone 0171 215 2099

BBC

BBC Research Department

Kingswood Warren

Tidworth

Surrey KT20 6NP

Telephone 01737 832361

NTL

Crawley Court

Winchester

Hampshire

SO21 2QA

Telephone 01962 823434

APPENDIX 3

Legislation and Guidance**European:**

Directive 79/409/EEC on the Conservation of Wild Birds.

Directive 85/337/EEC on the Assessment of the Effects of Certain Public and Private Projects on the Environment.

Directive 92/42/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

England and Wales:

1990 Town and Country Planning Act, HMSO, 1990.

Statutory Instrument 1988 No 1199, The Town and Country Planning (Assessment of Environmental Effects) Regulations 1988, HMSO, 1988.

Department of Environment Circular 15/88 (Welsh Office 23/88), Environmental Assessment, HMSO, 1988.

DoE Circular 7/94 (WO 20/94), Environmental Assessment - Amendment of Regulations, HMSO, 1994.

DoE Circular 27/87 (WO 52/87), Nature Conservation, HMSO, 1987.

DoE Circular 1/92 (WO 1/92), Planning Controls over Sites of Special Scientific Interest, HMSO, 1992.

DoE / WO, Planning Policy Guidance 7, The Countryside and the Rural Economy, HMSO, 1992.

DoE / WO, Planning Policy Guidance 20, Coastal Planning, HMSO, 1992.

DoE / WO, Planning Policy Guidance 22, Renewable Energy, HMSO, 1993.

DoE / WO, Planning Policy Guidance 24, Planning and Noise, HMSO, 1994.

DoE, Draft Planning Policy Guidance, Nature Conservation, 1992 (final version due soon).

DoE, Regional Planning Guidance (RPGs 1-10).

Scotland:

The Town and Country Planning (Scotland) Act, 1972.

Scottish Office Environment Department (SOEnD) Circular 24/1985, Development in the Countryside and Green Belts, HMSO, 1985.

SOEnD Circular 1/1988, EC Directive on the Conservation of Wild Birds, HMSO, 1988.

SOEnD Circular 13/1988, Environmental Assessment - Implementation of the EC Directive, HMSO 1988.

SOEnD Circular 13/1991, Nature Conservation and Part VIII of the Environmental Protection Act 1990, HMSO 1991.

SOEnD Circular 26/1994, The Environment Assessment (Scotland) Amendment Regulations 1994, HMSO 1994.

The Environmental Assessment (Scotland) Regulations, 1988 (No 1221).

SOEnD, National Planning Policy Guideline (NPPG6), Renewable Energy, 1994

SOEnD, Planning Advice Note (PAN45), Renewable Energy Technologies, 1994

Northern Ireland:

Statutory Instrument 1991 No 1220 (NI 11), The Planning (Northern Ireland) Order 1991.

Planning (Assessment of Environmental Effects) Regulations (Northern Ireland) 1989, Statutory Rules of Northern Ireland 1989 No 20.

Department of Environment (Northern Ireland), Development Control Advice Note No 10: Environmental Impact Assessment, 1989

Department of Environment (Northern Ireland), Nature Conservation and Planning: Planning Conservation Guidelines, 1990.

APPENDIX 4

Guidance on Environmental Assessment

Countryside Commission, Landscape Assessment Guidance, CCP 423, 1993

Countryside Commission, Environmental Assessment: the treatment of landscape and countryside recreation issues, CCP326 1991

Countryside Commission, Wind Energy Development and the Landscape, CCP 357, 1991

Countryside Commission for Scotland, Landscape Assessment - Principles and Practice, 1991

Council for the Protection of Rural England, Environmental Statements - Getting Them Right, 1990

Department of Environment, Environmental Assessment: A guide to the procedures, HMSO, 1989

English Nature, Nature Conservation Guidelines for Renewable Energy Projects, 1994

English Nature, Nature Conservation in Environmental Assessment, 1994.

European Commission, Report of the European Commission on the Implementation of Directive 85/337/EEC, CEC Com (93) 28, 1993

In preparation:

Institute of Environmental Assessment, Guidelines for the Baseline Ecological Input to Environmental Assessment in the UK. In preparation - to be published end of 1994.

Institute of Environmental Assessment/ The Landscape Institute, Guidelines for Landscape and Visual Impact Assessment. In preparation - to be published end of 1994.

Department of Environment, The Guide for Preparing Environmental Statements for Planning Projects. In preparation - to be published end of 1994.

APPENDIX 5

British Standards and Codes of Practice

For details of relevant British Standards and codes of practice the following organisations should be contacted:

British Standards Institution

389 Chiswick High Road

Chiswick

London W4 4AL

Telephone 0181 996 9000

Health and Safety Executive

Danial House

Trinity Road

Merseyside

L20 3TW

Telephone 0151 951 4000

The British Wind Energy Association,
Lincoln's Inn House,
Kingsway,
London WC2B 6EX.
Telephone 0171 404 3433

ISBN 1 870064 21 6